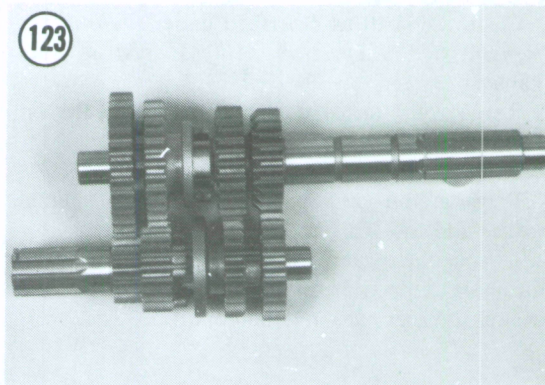


NOTE

After both transmission shafts have been assembled, mesh the 2 assemblies together in the correct position (**Figure 123**). Check that all gears meet correctly. This is your last check prior to installing the assemblies into the crankcase; make sure they are correctly assembled.

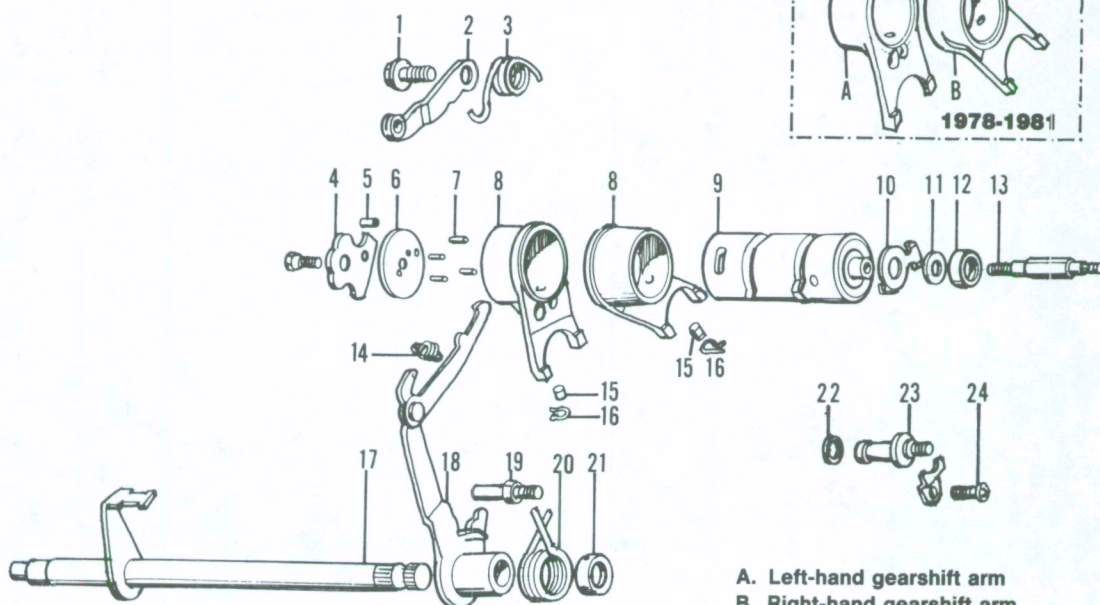
INTERNAL SHIFT MECHANISM (ALL MODELS)

Refer to **Figure 124** for 70 cc models or **Figure 125** for 90-125 cc models for this procedure.



124

GEARSHIFT MECHANISM (70 CC)



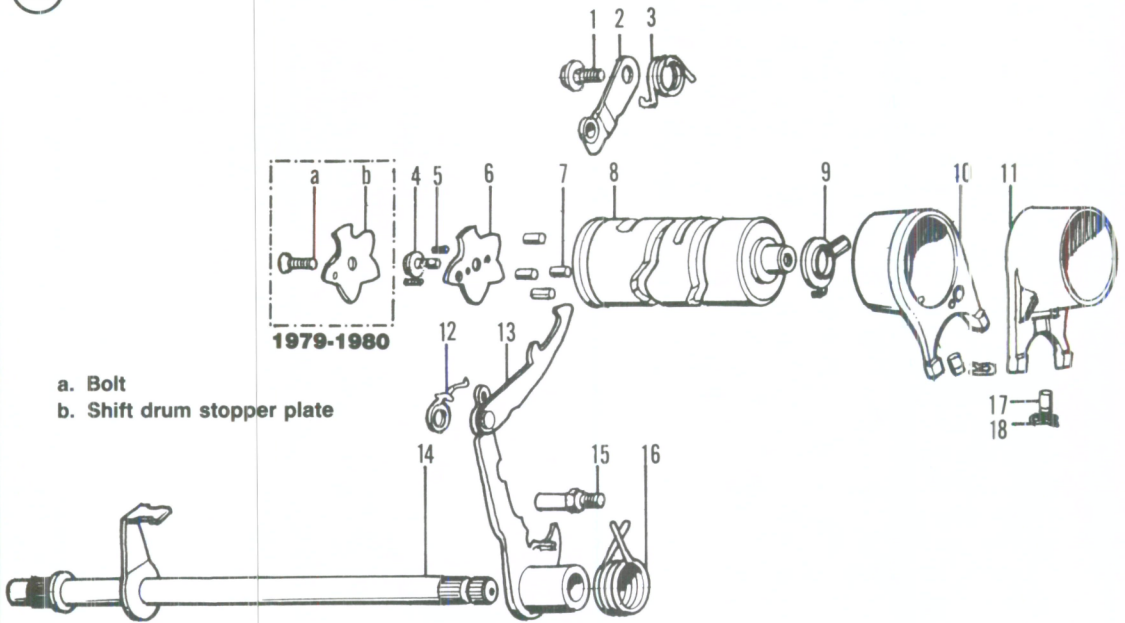
A. Left-hand gearshift arm
B. Right-hand gearshift arm

1. Bolt
2. Stopper pawl
3. Spring
4. Shift drum stopper plate
5. Pin
6. Plate (1982-on)
7. Pin
8. Gearshift fork
9. Gearshift drum
10. Neutral indicator contact plate
11. Washer
12. Oil seal

13. Gear position indicator shaft
14. Spring
15. Guide pin
16. Clip
17. Gearshift shaft
18. Gearshift arm
19. Stud
20. Return spring
21. Collar
22. O-ring seal
23. Neutral indicator
24. Screw

125

GEARSHIFT MECHANISM (90-125 CC)

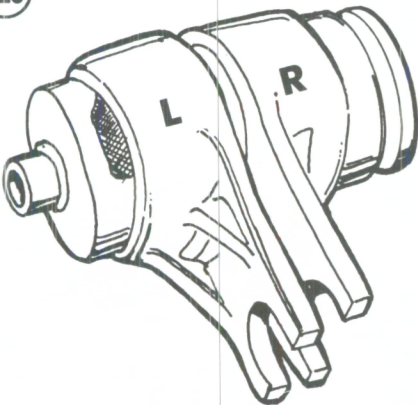


a. Bolt
b. Shift drum stopper plate

1. Bolt
2. Stopper pawl
3. Spring
4. Bolt
5. Pin
6. Shift drum stopper plate
7. Pin
8. Gearshift drum
9. Neutral indicator contact plate

10. Right-hand gearshift fork
11. Left-hand gearshift fork
12. Spring
13. Gearshift arm
14. Gearshift shaft
15. Stud
16. Return spring
17. Guide pin
18. Clip

126



Disassembly/Inspection/Assembly

NOTE

Prior to disassembly, mark the shift forks with an "R" (right-hand side) and "L" (left-hand side—toward the shift drum stopper plate). Refer to **Figure 126**. The right- and left-hand side refer to the shift fork as it is installed in the engine, not as it sits on your workbench. The shift forks are not identical (even though they look alike) and they must be reinstalled onto the shift drum in the correct position.

1. Clean the assembly in solvent and thoroughly dry with compressed air.
2. Check for any arc-shaped wear or burned marks on the shift forks (**Figure 127**). This indicates that the shift fork has come in contact with the gear.

The shift fork fingers have become excessively worn and the fork must be replaced.

3. Inspect each shift fork for signs of wear or cracking. Check for bending and make sure each fork slides smoothly on the shift drum (Figure 128). Replace any worn or damaged forks.

4. Remove the clip (Figure 129) securing the guide pin in the shift fork.

5. Remove the guide pin (Figure 130) and slide the shift fork off of the shift drum.

6. Repeat Steps 4 and 5 for the other shift fork.

7. Measure the inside diameter of each shift fork (A, Figure 131) with an inside micrometer. Replace if worn to the service limit shown in Table 2.

8. Measure the width of the gearshift fork fingers with a micrometer (Figure 132). Replace any that are worn to the service limit shown in Table 2.

9. Measure the outside diameter of the shift drum (B, Figure 131) with a micrometer. Replace if worn to the service limit shown in Table 3.

10. Check the grooves in the shift drum (Figure 133) for wear or roughness. If any of the groove profiles have excessive wear or damage, replace the shift drum.

11. On models so equipped, inspect the neutral switch rotor on the end of the shift drum. If damaged, remove it and install a new one. Make sure the locating tang on the rotor is installed into the hole in the shift drum (C, Figure 131).

12. Apply a light coat of assembly oil to the shift drum and the inside bores of the shift forks prior to installation.

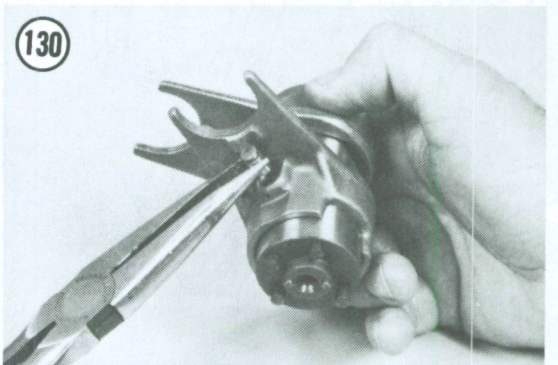
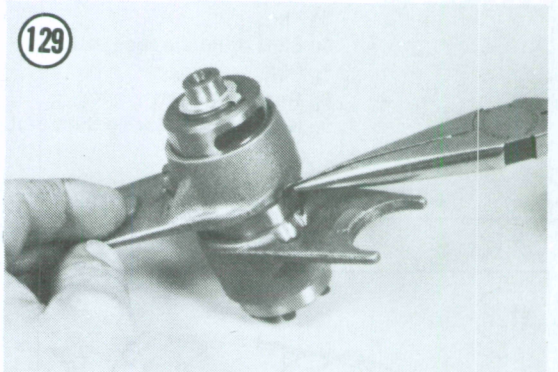
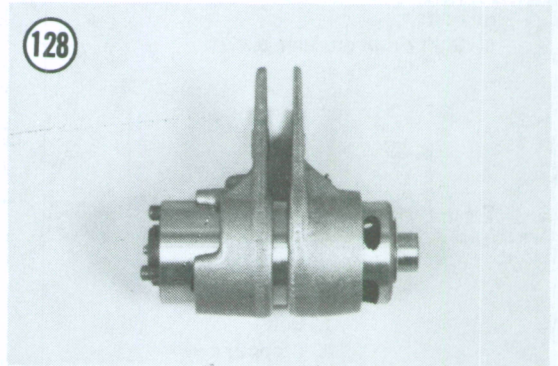
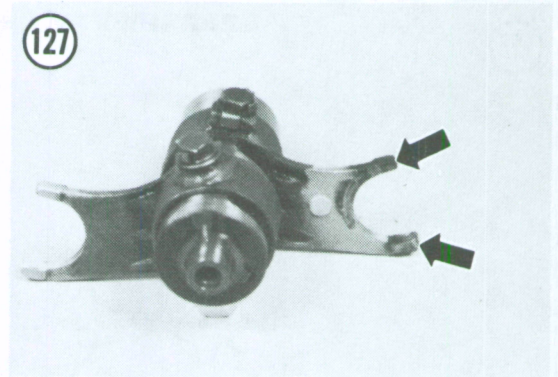
13. Be sure to install the shift forks correctly onto the shift drum; refer to marks made during disassembly.

SUBTRANSMISSION

The ATC90, ATC110 and ATC125M have a dual-range subtransmission that is equipped with 2 reduction gears. On the ATC90, the unit is called "Posi-Torque." The unit is driven by the countershaft of the main transmission. It offers 2 different riding ranges or ratios—a low and a high range. Shifting is accomplished by moving a small lever on the subtransmission cover.

The dual-range subtransmission used on all models is basically the same. Where differences occur they are noted. The dual-range subtransmission is shown in the following illustrations:

- a. ATC90—Figure 134.
- b. ATC110—Figure 135.
- c. ATC125M—Figure 136.



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